

1993.9.30

Color Camera Block

**EVI-900/901  
Instruction**

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Nov. 1993

## Correction for EVI-900/901 instruction

Sorry to bother you, however, there is some corrections on EVI-900/901 instruction.

Please refer to the following points.

### 1. Page 11 - Shutter Speed in Manual Adjustment -

The 3rd line from the top of the paragraph.

Locked at the actual speed ( 1/60 (PAL1/50) to 1/250 ) → 1/120 →  
1/1000 → Automatic( 1/60 (PAL1/50) to 1/250 ) circally.

### 2. Page 12 - Aperture Priority Mode in Program AE, Manual Adjustment -

The end of the 1st line from the top of the paragraph.

The shutter speed is automatically set ( between 1/60 (PAL1/50) and 1/2000 (PAL1/1750) ) in coming ...

### 3. Page 12

#### - Shutter Speed Priority Mode in Program AE, Manual Adjustment -

The end of the 1st line from the top of the paragraph.

You can select the shutter speed 16steps between 1/60 (PAL1/50) and 1/10000.

### 4. Page 12 - Hold

The 1st line from the top of the paragraph.

Slide S003 switch down to the HOLD position.

### 5. Page 12 - Hold

The last line " Each condition displays on LCD " should be eliminated.

## ■ 1 General Descriptions

EVI-900(NTSC)/EVI-901(PAL) is a 3CCD Camera Block which has x12 Zoom and Auto Focus lens. This system employs high density three chip precision Charge Coupled Devices (CCD). Each CCD imager has a total about 410K/470K picture element. It realize more than 530 TV lines horizontally.

The camera has many functions like PROGRAM AE system, Auto Tracing/One Push or Preset White Balance, 12steps IRIS control, 16steps Electronic Shutter up to 1/10000sec., 8steps GAIN control individually, and built-in ND filter.

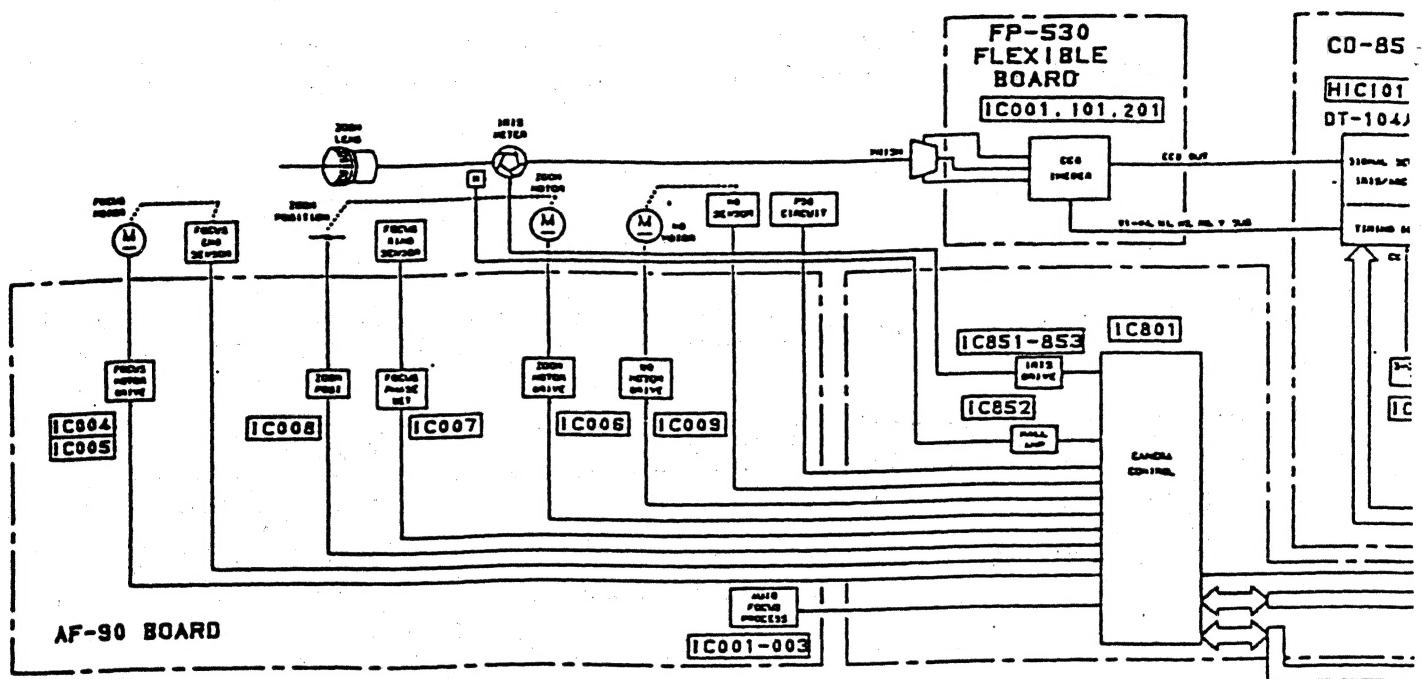
And supplied Camera Control Board EB-3/3P which control each functions.  
Video out is composit and Y/C(S-Video). Possible to remote control the lens.

## ■ 2 Main Specifications

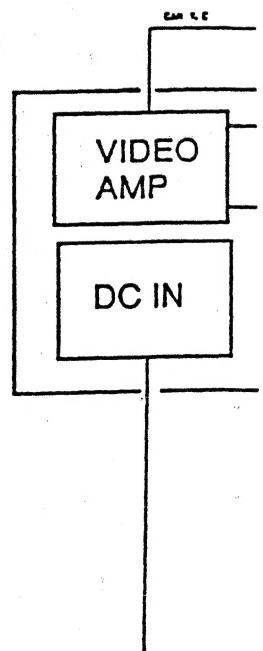
|                                 | EVI-900 (NTSC)   | EVI-901 (PAL)  |
|---------------------------------|--|--|
| Image Sensor                    | 1/3" IT CCDx3CCDs  |  |
| Effective Pixels                | 768(H)x494(V)  | 752(H)x582(V)  |
| Horizontal Resolution           | more than 530TV lines  | more than 520TV lines  |
| Lens                            | x12 motorized Power Zoom f=5.5 to 66mm<br>TTL Auto Focus<br>Inner Focus, Auto Wide Macro<br>Filter 52mm dia. |  |
| Shortest subject Distance       | 10mm (wide end) : 120cm (tele end)   |  |
| Video Out                       | Y:VS 1.0Vp-p Sync negative<br>C:Burst 0.286Vp-p<br>VBS:1.0Vp-p Composite                                     | Y:VS 1.0Vp-p Sync negative<br>C:Burst 0.300Vp-p<br>VBS:1.0Vp-p Composite |
| Min. Illumination               | 8 lux (F1.6)   |  |
| White Balance                   | TTL Auto tracing, One Push AWB, Preset (Indoor, Outdoor)   |  |
| Electronic Shutter              | 16steps (1/60 to 1/10000sec)   | 16steps (1/50 to 1/10000sec)   |
| Iris                            | 13steps (F1.6 to F11+Close)  |  |
| Gain                            | 8steps (-3dB to +18dB)   |  |
| S/N Ratio                       | 48dB   |  |
| Operating Temperature           | 0 degreesC to 40 degreesC  |  |
| Storage Temperature             | -20 degreesC to 60 degreesC  |  |
| Power Requirement               | DC6 to 9V (6W)   |  |
| Dimensions (WxHxD)              | 82x97x172mm (EVI-900/901)<br>125x75x23mm (EB-3/3P)   |  |
| Weight                          | 580g (include EB-3/3P)   |  |
| Remote Control<br>(ZOOM, FOCUS) | Possible to remote control by Digital Serial Signal<br>(For 8mm Video controller RM-95 can be connected)     |  |
| Supplied Accessory              | Control Board, 13P.6P Flexible Cable<br>3P-3P Harness, 2P.4P.5P.6P.7P Harness                                |  |

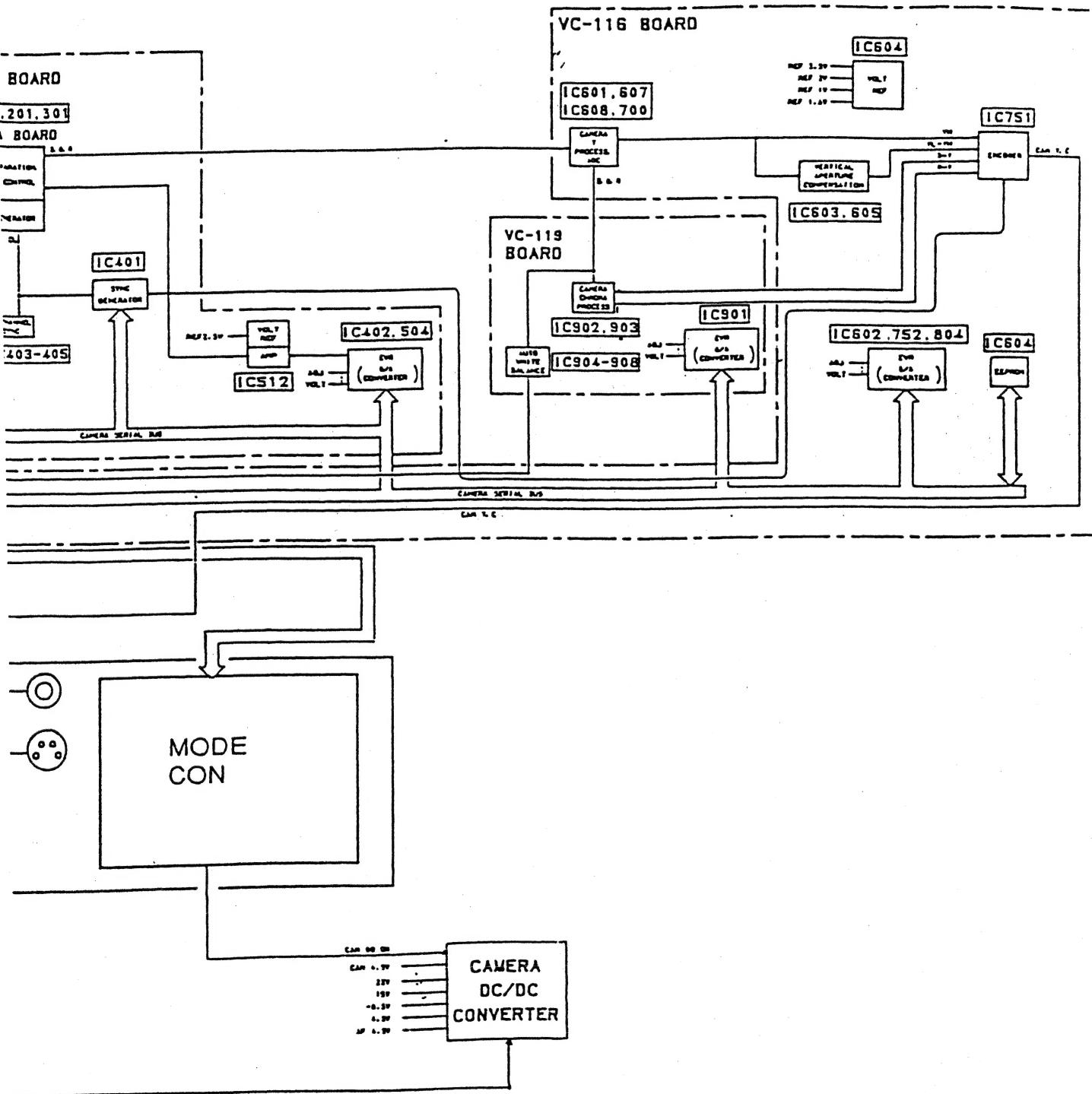
### 3 Block Diagram

EVI-900/901



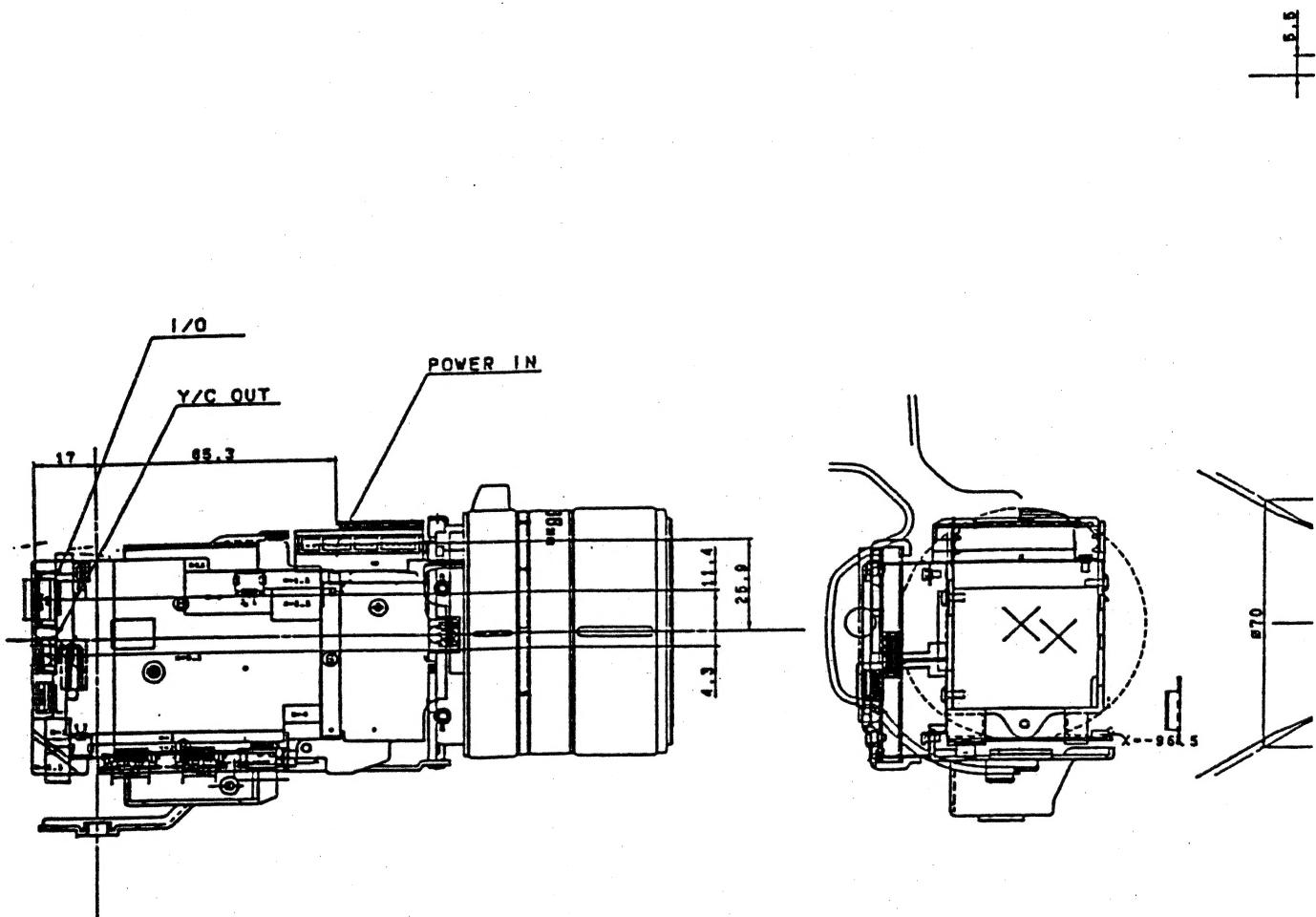
EB-3/3P

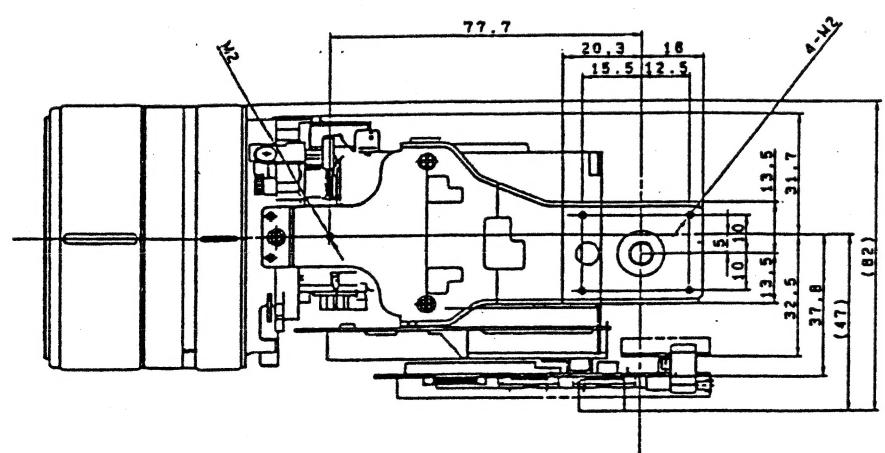
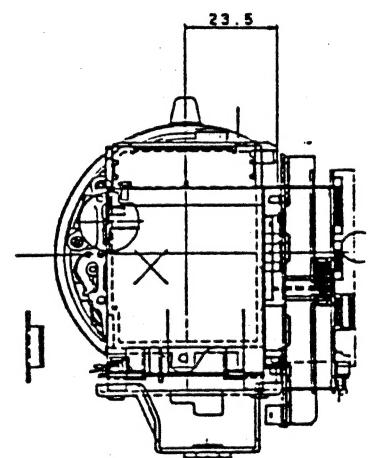
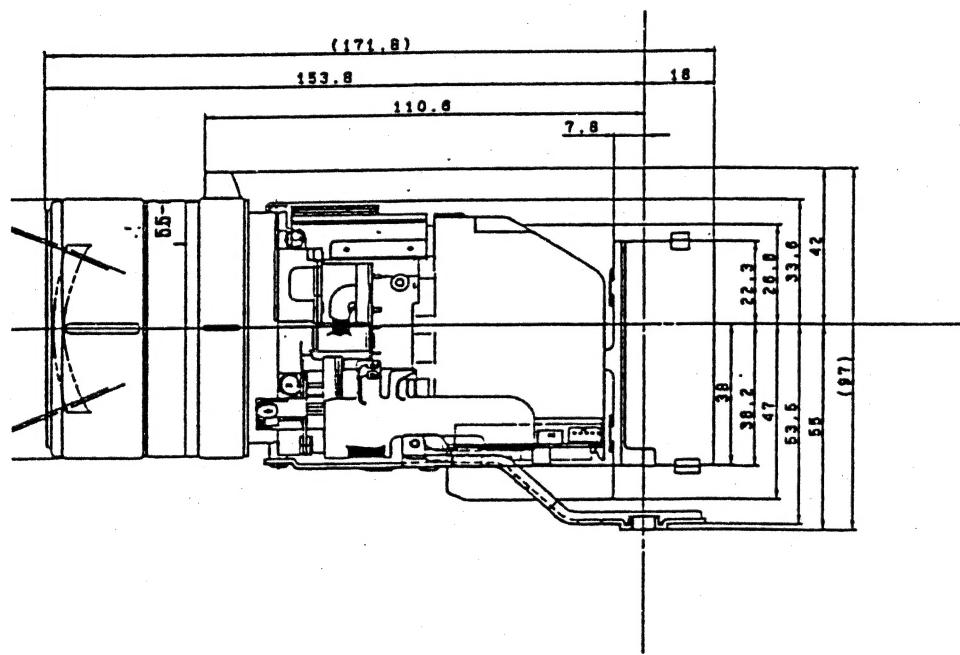
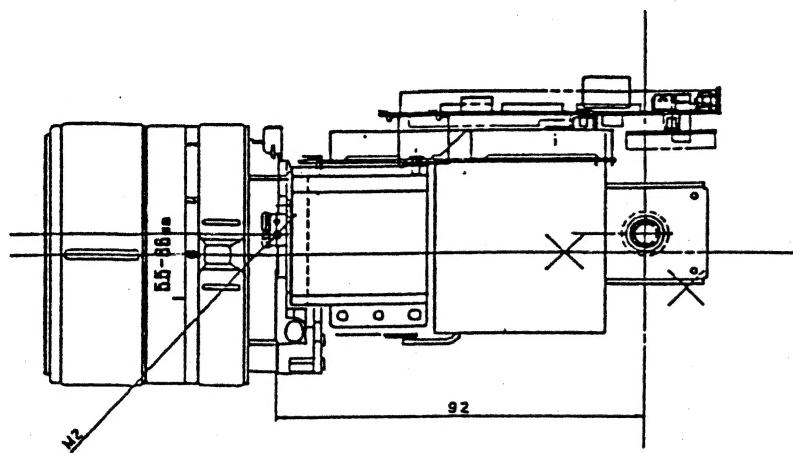


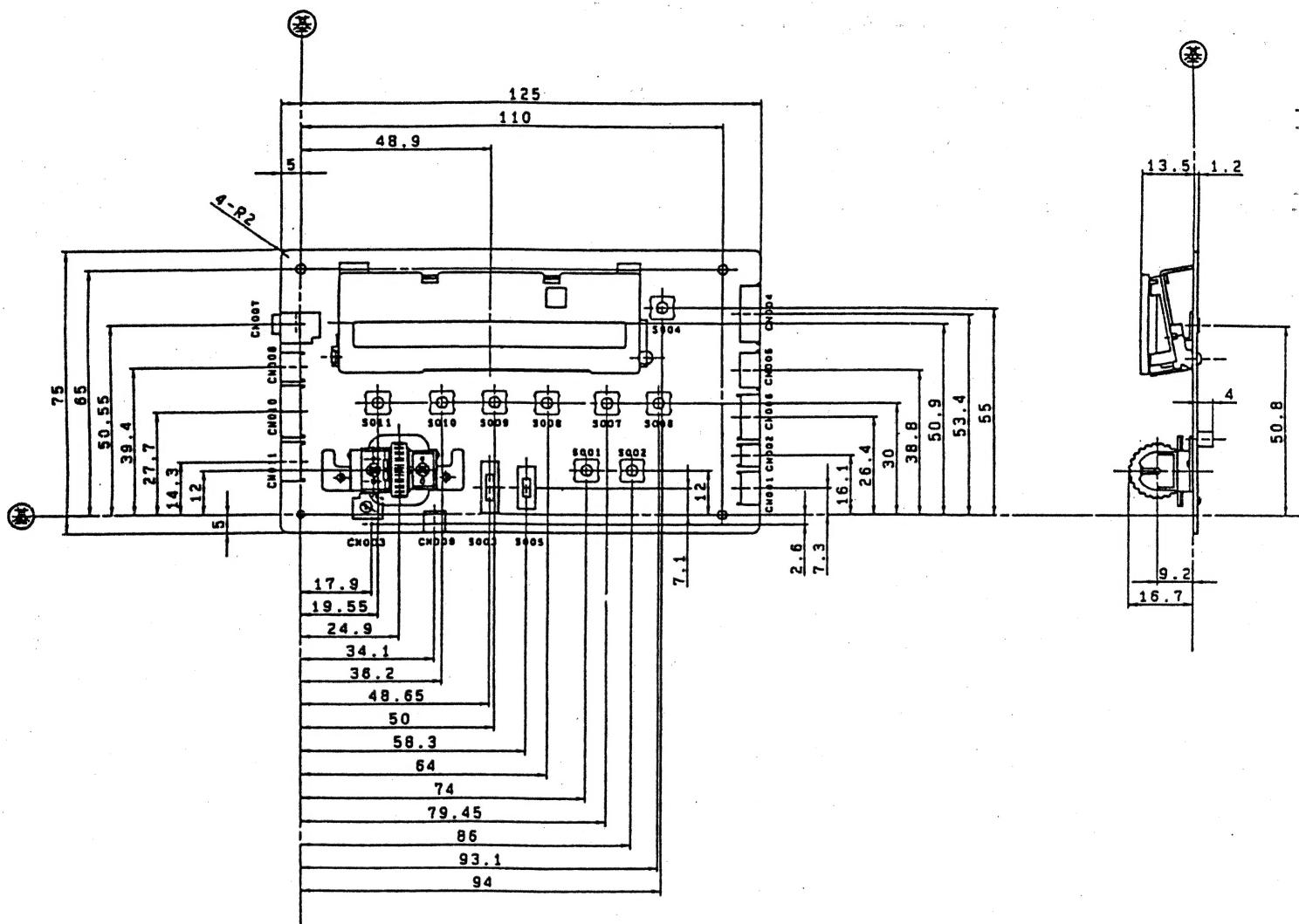


## 4 Dimentions

EVI-900/901







## 5 Input/Output Connectors

### EVI-900/901

- ◇CN801:13P Connect to CN004(EB-3/3P)  
◇CN751:6P Connect to CN005(EB-3/3P)  
◇DC/DC Convector (Power in):4P Connect to CN001(EB-3/3P)

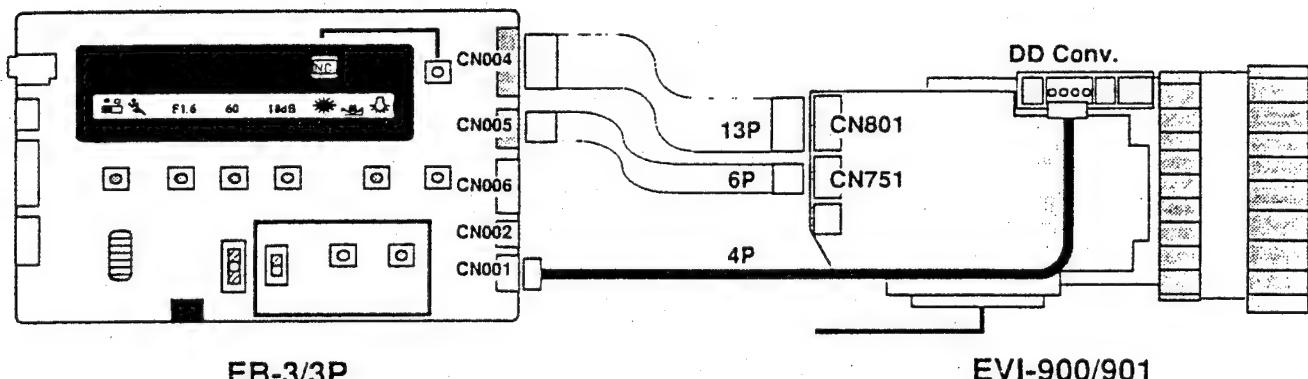
### EB-3/3P

- ◇CN001:4P Connect to DC/DC Convector(EVI-900/901)
- |   |           |                |
|---|-----------|----------------|
| 1 | CAM UNREG | JST            |
| 2 | CAM GND   | S4B-ZR-SM3A-TF |
| 3 | AF UNREG  |                |
| 4 | AF GND    |                |
- ◇CN002:2P POWER IN
- |   |          |                |
|---|----------|----------------|
| 1 | +6~9V IN | JST            |
| 2 | GND      | S2B-ZR-SM3A-TF |
- ◇CN003:3P CONTROL DIAL
- |   |           |             |
|---|-----------|-------------|
| 1 | SS +5V    | JAPAN MOREX |
| 2 | CONT DIAL | 52207-0390  |
| 3 | SS GND    |             |
- ◇CN004:13P Connect to CN801(EVI-900/901)
- |    |              |                 |
|----|--------------|-----------------|
| 1  | DT WEN       | KYOCERA ELCO    |
| 2  | ZB OUT       | 046206013000800 |
| 3  | SYSTEM SYNC  |                 |
| 4  | L13V         |                 |
| 5  | SS 5V        |                 |
| 6  | CAM DD ON    |                 |
| 7  | SS GND       |                 |
| 8  | SYSTEM RESET |                 |
| 9  | FADER CONT   |                 |
| 10 | DATA TO MOD  |                 |
| 11 | DATA TO CAM  |                 |
| 12 | SCK          |                 |
| 13 | CS CAMERA    |                 |

|                            |                               |                 |
|----------------------------|-------------------------------|-----------------|
| ◇CN005:6P                  | Connect to CN751(EVI-900/901) |                 |
|                            | 1~3 NC                        | KYOCERA ELCO    |
|                            | 4 CAM C IN                    | 046206006000800 |
|                            | 5 GND6 CAM Y IN               |                 |
| ◇CN006:6P                  | VIDEO OUT                     |                 |
|                            | 1 GND                         | JST             |
|                            | 2 C OUT                       | S6B-ZR-SM3A-TF  |
|                            | 3 GND                         |                 |
|                            | 4 Y OUT                       |                 |
|                            | 5 GND                         |                 |
|                            | 6 VIDEO OUT                   |                 |
| ◇CN007: For Remote Control |                               | SMK             |
|                            |                               | LGK2512-0160    |
| ◇CN008:3P                  | REMOTE CONTROL                |                 |
|                            | 1 ECCP DC OUT                 | JST             |
|                            | 2 ECCP SIG                    | S3B-ZR-SM3A-TF  |
|                            | 3 GND                         |                 |
| ◇CN009:3P                  | CONTROL DIAL                  |                 |
|                            | 1 SS +5V                      | SMK             |
|                            | 2 CONT DIAL                   | GP4703-0410     |
|                            | 3 SS GND                      |                 |
| ◇CN010:7P                  | PARALLEL REMOTE CONTROL       |                 |
|                            | 1 AF ON/OFF                   | JST             |
|                            | 2 AUTO LOCK ON/OFF            | S7B-ZR-SM3A-TF  |
|                            | 3 ZOOM TELE                   |                 |
|                            | 4 ZOOM WIDE                   |                 |
|                            | 5 PROGRAM AE                  |                 |
|                            | 6 IRIS                        |                 |
|                            | 7 SHUTTER                     |                 |
| ◇CN011:5P                  | PARALLEL REMOTE CONTROL       |                 |
|                            | 1 GAIN                        | JST             |
|                            | 2 WHITE BALANCE               | S5B-ZR-SM3A-TF  |
|                            | 3 ONE PUSH WB TRIGGER         |                 |
|                            | 4 ND FILTER                   |                 |
|                            | 5 SS GND                      |                 |
| ◇S003                      | AUTO/MANUAL/HOLD MODE         |                 |
| ◇S005                      | FOCUS AUTO/MANUAL MODE        |                 |

## 6 Standard Connections

Please connect conductor side faces to the board



EB-3/3P

EVI-900/901

|       |  |   |
|-------|--|---|
| CN002 | 1 RED<br>2 BLACK   | DC6~9V IN<br>GND                                    |
| CN006 | 1 GRAY<br>2 RED<br>3 ORANGE<br>4 YELLOW<br>5 WHITE<br>6 BLUE | GND<br>C OUT<br>GND<br>Y OUT<br>GND<br>COMPOSIT OUT |

|  | SHUTTER<br>S009   | GAIN<br>S018   | WHITE BALANCE<br>S019   | AF<br>MANUAL<br>S005<br>FOCUS   |
|--|---|--|---|---|
| <b>AUTO</b>  | Automatic Adjustment 1/60~1/250   | Automatic  | Automatic Adjustment  | When you set the AF, you can adjust the focus automatically regardless of the setting the S003 switch.  |
| <b>AUTO</b><br>AUTO<br>MANU<br>HOLD<br>S003          | When you press IRIS, the aperture is locked at the actual value.<br><br>Each time you press the button, shutter speed changes.<br>Blocked 1/60~1/250 → 1/100 → 1/1000 → Auto 1/60~1/250 | When you press GAIN, the gain is locked at the actual level.<br><br>Each time you press the button, shutter speed changes.<br>Blocked 1/60~1/250 → 1/100 → 1/1000 → Auto 1/60~1/250  | Each time you press the button, the mode changes.<br>Indicator (Auto) → (One-push)<br>Indoor → (Outdoor)  | When you set the MANUAL, you can adjust the focus manually by turning the focusing directly.  |
| <b>MANUAL</b>  | Dial<br>UP<br>DOWN<br>You can select from 13 values, from F1.6 to CLOSE.  | You can select from 16 speeds, from 1/60 to 1/10000  | You can select from 8 gain levels, from 3dB to +18dB.   | When you press the White Balance button and appears in LCD, by pressing ONE PUSH / ROLLER you can lock the white balance and recolors without being affected by the ambient light.  |
| <b>PROGRAM AE</b><br>PROGRAM<br>MANU<br>HOLD<br>S003 | Portrait Mode<br>Sports Mode<br>Aperture Priority Mode<br>Shutter Priority Mode   | Press PROGRAM button so that [ ] appears in the LCD.<br>Press PROGRAM button so that [ ] appears in the LCD.<br>Press PROGRAM button so that [ ] appears in the LCD.<br>Press PROGRAM button so that [ ] appears in the LCD. | Press PROGRAM button so that [ ] appears in the LCD.<br>Selected the aperture with the CONTROL dial → the shutter speed automatically set to maintain AF.<br>Selected the shutter speed with the CONTROL dial → the aperture automatically adjusted to maintain AF. | Use portrait mode to get a portrait effect, that is, the subject in focus and the background out of focus. The aperture and shutter speed are automatically adjusted depending on the size and brightness of the subject. |
| <b>PROGRAM AE</b><br>PROGRAM<br>MANU<br>HOLD<br>S003 |   |  |   | Use sports mode to shoot a moving subject. The aperture and shutter speed are automatically adjusted to maintain the appropriate exposure depending on the speed of the subject.  |
| <b>PROGRAM AE</b><br>PROGRAM<br>MANU<br>HOLD<br>S003 |   |  |   | Select the desired aperture, and the shutter speed is automatically set (between 1/60 and 1/2000) value to maintain appropriate exposure.   |
| <b>PROGRAM AE</b><br>PROGRAM<br>MANU<br>HOLD<br>S003 |   |  |   | Select the desired shutter speed, and the aperture is automatically adjusted to maintain appropriate exposure (between F1.6 and F11).   |

**AUTO** By setting the S003 switch to HOLD, it is possible to fix each function.

**ND FILTER** The internal ND filter is set and reduces the amount of incident light to one-tenth.  
We recommend

## Auto Adjustment

Slide S003 switch up to the AUTO position. You can get Auto Adjustment mode (Auto Focus, Auto Iris, Electronic Shutter (1/60~1/250), AGC, Auto White Balance). Other switch or dial does not work. Adjustment value does not display on LCD.

## Manual Adjustment

Slide S003 switch down to the MANU position. You can get Manual Adjustment mode. Manual Adjustment mode, each function's values are displayed on LCD.

### IRIS :

When you press S010, the aperture is locked at the actual value which was selected automatically at that time. You can now select the aperture manually from 12 values using the CONTROL dial: (F1.6, F2, F2.4, F2.8, F3.4, F4, F4.8, F5.6, F6.8, F8, F9.6, F11, Close)

### SHUTTER SPEED :

When you press S009, the shutter speed is locked at the actual value which was selected automatically at that time. Each time you press this button, the shutter speed changes: Locked at the actual speed (1/60~1/125) → 1/120 → 1/1000 → Automatic (1/60~1/125), cyclically. You can now select the shutter speed manually from 16 speeds using the CONTROL dial: (1/60 (PAL1/50), 1/90, 1/100, 1/125 (PAL1/120), 1/180, 1/250, 1/350, 1/500, 1/725, 1/1000, 1/1500, 1/2000, 1/3000, 1/4000, 1/6000, 1/10000)

### GAIN :

When you press S008, the gain is locked at the actual levels which was selected automatically at that time. If you adjusted aperture manually prior to adjusting the gain, the gain level is set according to the aperture setting. You can now select the gain manually from 8 levels using the CONTROL dial: (-3dB, 0dB, +3dB, +6dB, +9dB, +12dB, +15dB, +18dB )

### WHITE BALANCE :

Each time you press S007, the white balance changes: One-push mode (hold) → Outdoor → Indoor → Auto white balance, cyclically.

### ONE PUSH WHITE BALANCE :

When you press S006, you can get the one-push white balance, while you press S007 and hold the white balance. The setting is locked and maintained even if lighting conditions change.

### FOCUS :

Slide S005 switch up to the AF. You can get Auto Focus whatever mode the S003 switch is in. Slide S005 switch down to MANU and turn the focus ring directly. You can adjust focusing manually.

## ZOOM :

Press S002 for telephoto shots and S003 for wide-angle shots whatever mode the S003 switch is in. And you can also zoom using the zoom lever directly.

## ND FILTER :

You can shoot a bright scene clearly with the internal ND filter. Press S004 for ND filter in or out whatever mode the S003 switch is in. This is a filter that reduces the amount of incident light without affecting the colour. The internal ND filter reduces the amount of incident light to one-tenth. If the "ND" indicator flashes on LCD, press this button.

## PROGRAM AE :

Each time you press the S011, the mode changes: Portrait→Sports→Aperture Priority Shutter Speed Priority→Manual, cyclically.

### **●Portrait Mode**

You can get a portrait effect, that is, the subject in focus and the background out of focus. The aperture and the shutter speed are automatically adjusted to maintain the appropriate exposure depending on the size and brightness of the subject.

### **●Sports Mode**

You can get a subject with high-speed action and view the picture with less shaking. The shutter speed and the aperture are automatically adjusted to maintain the appropriate exposure depending on the speed of the subject.

### **●Aperture Priority Mode**

You can select the aperture to determine the desired depth of field. The shutter speed is automatically set (between 1/50 and 1/1750) in combination with the aperture value to maintain appropriate exposure.

### **●Shutter Speed Priority Mode**

You can select the shutter speed from 16 speeds between 1/50 and 1/10000. The aperture value is automatically adjusted according to the selected shutter speed to maintain appropriate exposure (between F1.6 and F11).

## HOLD

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Slide S003 switch down to the MANU position. You can lock the mode which was selected by manual adjustment or program AE. Each switches (IRIS, SHUTTER, GAIN, WHITE BALANCE, and PROGRAM) or dial does not work. Each condition displays on LCD.

## 8 Remote Control

### RM-95

You can control zoom and focus if you use Remote Commander RM-95 which connect CN007 on EB-3/3P.

### External Switch

You can control each function by using External Switch which connect CN010, CN011 on EB-3/3P. You can get same conditions as pressing the button on EB-3/3P, by connecting each terminal with GND. And when you use external switch, set S003 and S005 (when you use manual focus) switch down to MANU. Relations between CN010, CN011 each terminal and each switch on EB-3/3P is as follows.

#### EB-3/3P

##### ◇CN010:7P

|   |                  |      |
|---|------------------|------|
| 1 | AF ON:OFF        | S005 |
| 2 | AUTO LOCK ON/OFF | S003 |
| 3 | ZOOM TELE        | S001 |
| 4 | ZOOM WIDE        | S002 |
| 5 | PROGRAM AE       | S011 |
| 6 | IRIS             | S010 |
| 7 | SHUTTER          | S009 |

##### ◇CN011:5P

|   |                  |      |
|---|------------------|------|
| 1 | GAIN             | S008 |
| 2 | WHITE BALANCE    | S007 |
| 3 | ONE PUSH TRIGGER | S006 |
| 4 | ND FILTER        | S004 |
| 5 | SS GND           |      |

※You can use the Control Dial by removing and extending from EB-3/3P.

## **■9 Power Supply**

EVI-900/901 requires 2A of rush current when the power is turned on. Please use the power supply considering 2A of rush current. In case of shortage of current, it will not be turned on though DC6 to 9V is supplied.

## **■10 Note for the installation**

Please use M2 screw on tripod attachment and the screw hole behind the lens to fit the housing or chassis.

## **■11 Others**

Please be noticed that EVI-900/901 has no RGB output nor external sync function.